RELAY SELECTION GUIDE- MICOM P127 VS MICOM P14D

SCS

SYSTEM CONTROLS & SWITCHGEARS

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Overview

System controls & switchgears is one of the fastest growing companies in India. Established in 1983, a privately owned company has unrivalled experience in the distribution of electrical products. SCS business covers a broad range of Medium Voltage Switchgears, Low Voltage Switchgears, Power Capacitors, Internal wiring accessories, Lighting, Metal Detectors, Energy Management Products and other products. Over the last 3 decades history, we've developed strong relationships with customers. Our strength lives in all of our people, who have extended our tradition of service and integrity to customers in every location and situation, and who take pride in making us one of the most resilient resources in the products we deal.

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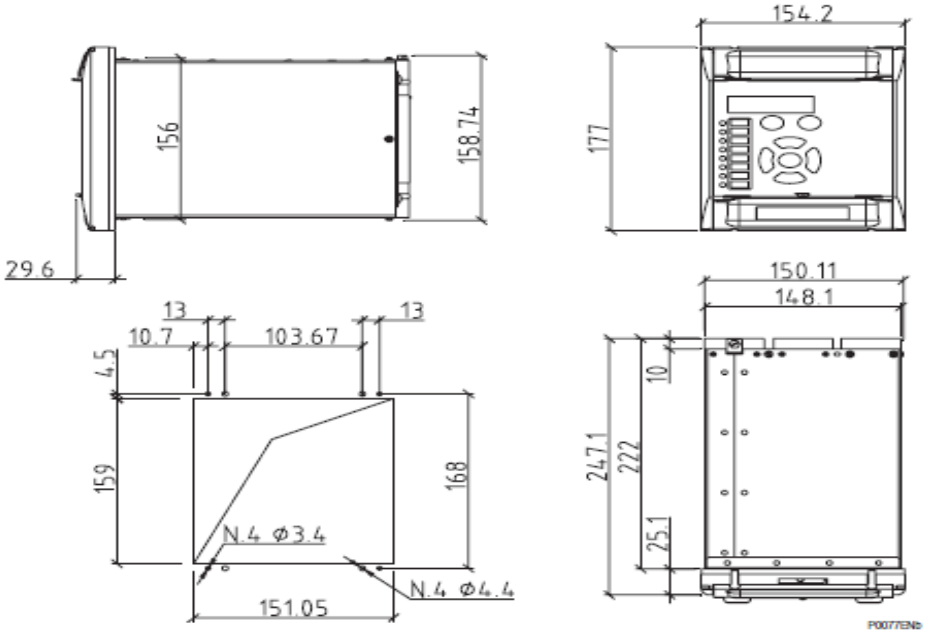

Version	Height	Depth	Width
Type P125	4U (177mm)	226mm	20 TE
Type P126 & P127	4U (177mm)	226mm	30 TE

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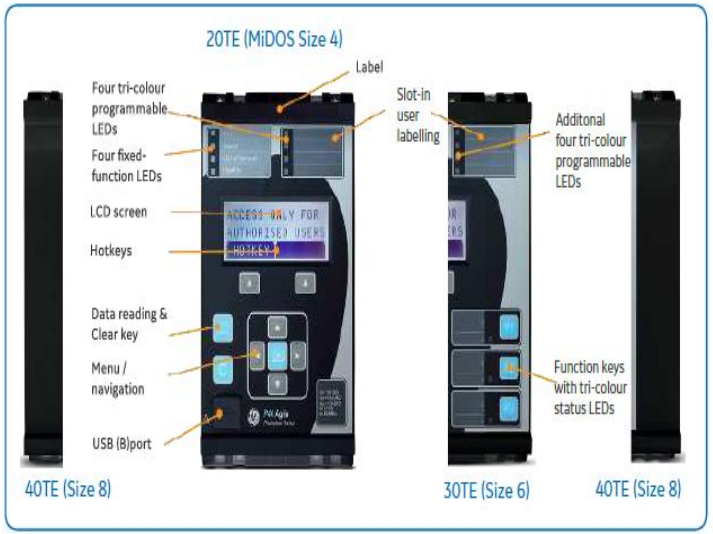

Physical Measurements	
Case Types	20TE 30TE 40TE
Weight (20TE case)	2 kg – 3 kg (depending on chosen options)
Weight (30TE case)	3 kg – 4 kg (depending on chosen options)
Weight (40TE case)	5.5 kg
Dimensions in mm (w x h x l) (20TE case)	W: 102.4mm H: 177.0mm D: 243.1mm
Dimensions in mm (w x h x l) (30TE case)	W: 154.2mm H: 177.0mm D: 243.1mm
Dimensions in mm (w x h x l) (40TE case)	W: 206.0mm H: 177.0mm D: 243.1mm
Mounting	Panel, rack, or retrofit

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ANSI CODES	FEATURES	P125	P126	P127
50/51P/N	1 phase or earth overcurrent	•		
50/51	3 phase overcurrent		•	•
50/51N	Earth overcurrent		•	•
64N	Restricted Earth Fault	•	•	•
67P	3 phase directional overcurrent			•
67N	Earth fault directional overcurrent	•	•	•
51V	Voltage controlled overcurrent			•
37	3 phase undercurrent		•	•
46	Negative phase sequence overcurrent		•	•
27/59	Phase under/over voltage (AND & OR mode)			•
59N	Residual over voltage	•	•	•
32	Directional power			•
32N	Wattmetric Earth Fault	•	•	•
81U/O	Under/over frequency			•
49	Thermal overload		•	•
86	Output relay latching	•	•	•
79	Autoreclose		•	•
50BF	Circuit breaker failure detection		•	•
46BC	Broken conductor detection I2/I1		•	•
	Blocking Logic	•	•	•
	Test of output relays (Maintenance)	•	•	•
	CB control Local/remote	•	•	•
	Circuit Breaker Maintenance and Trip Circuit Supervision		•	•
	Cold load pick up		•	•
	Selective relay scheme logic		•	•
	Inrush blocking			•
	Switch on to fault (SOFT)		•	•
	Phase rotation			•
	VT supervision (VTS)			•

GENERAL FEATURES		P125	P126	P127
Number of digital inputs	Standard configuration	4	7	7
	Optional configuration			12
Total number of outputs relays		6	8	8
Events recording		250	250	250
Fault recording		25	25	25
Disturbance recording		5	5	5
Setting group		2	2	2
Auxiliary timers		4	4	4
Communication	IEC60870-5-103, DNP 3.0 & Modbus RTU	•	•	•
Time synchronisation	Via rear communication port (DCS)	•	•	•
	Via digital input (external clock)	•	•	•
	IRIG-B Synchronization (optional)			•
Settings software	MiCOM S1 using RS232 front port	•	•	•
	MiCOM S1 using optional RS485 rear port			•
Logic equation	AND, OR and NOT gates (8 equations)		•	•
Measurements	RMS currents values & frequency	•	•	•
	Peak and rolling currents values		•	•
	Max and average currents values		•	•
	Phase and/or neutral angle	•	•	•
	Max and average voltage values			•
	Power and Energy			•
	Apparent power and apparent energy			•

RELAY SELECTION GUIDE- MICOM P127 VS MICOM P14D

ANSI	IEC 61850	Protection Function	P14DA	P14DB	P14DG	P14DL	P14DZ
37		Undercurrent detection (low load)	Yes	Yes	Yes	Yes	Yes
46	NgcPTOC	Negative sequence overcurrent	Yes	Yes	Yes	Yes	Yes
46BC		Broken Conductor	Yes	Yes	Yes	Yes	Yes
49	ThmPTTR	Thermal Overload	Yes	Yes	Yes	Yes	Yes
50 SOTF		Switch onto Fault	Yes	Yes	Yes	Yes	Yes
50BF	RBRF	CB Failure	Yes	Yes	Yes	Yes	Yes
50	OcpPTOC	Definite time overcurrent protection	6 stages	6 stages	6 stages	6 stages	6 stages
50N	EfdPTOC	Neutral/Ground Definite time overcurrent protection Measured and Derived (standard EF CT), Derived (SEF CT)	4 stages	4 stages	4 stages	4 stages	4 stages
51	OcpPTOC	IDMT overcurrent protection (stages)	3 stages	3 stages	3 stages	3 stages	3 stages
51N	EfdPTOC	Neutral/Ground IDMT overcurrent protection	2 stages	2 stages	2 stages	2 stages	2 stages
67	OcpPTOC	Directional Phase Overcurrent	Yes	Yes	Yes	Yes	Yes
67N	EfdPTOC	Directional Neutral Overcurrent	Yes	Yes	Yes	Yes	Yes
		>Wattmetric Earth Fault	Yes	Yes	Yes	Yes	Yes
		Cold load pick up	Yes	Yes	Yes	Yes	Yes
VTS		VT supervision	Yes	Yes	Yes	Yes	Yes
CTS		CT supervision	Yes	Yes	Yes	Yes	Yes
64N	RefPDIF	Restricted Earth Fault	Yes	Yes	Yes	Yes	Yes
		Sensitive Earth Fault (with SEF CT only)	Yes	Yes	Yes	Yes	Yes
68		2nd Harmonic Blocking	Yes	Yes	Yes	Yes	Yes
27	VtpPhsPTUV	Undervoltage	3 stages	3 stages	3 stages	3 stages	3 stages
47		Negative sequence overvoltage	Yes	Yes	Yes	Yes	Yes
59	VtpPhsPTOV	Overvoltage	3 stages	3 stages	3 stages	3 stages	3 stages
59N	VtpResPTOV	Residual Overvoltage	3 stages	3 stages	3 stages	3 stages	3 stages
81O	FrqPTOF	Overfrequency	No	9 stages	9 stages	9 stages	9 stages
81U	FrqPTUF	Underfrequency	No	9 stages	9 stages	9 stages	9 stages
81df/dt		Rate of change of frequency (df/dt)	No	9 stages	9 stages	9 stages	9 stages
81V	DfpPFRC	Undervoltage blocking of frequency protection	No	Yes	Yes	Yes	Yes
		Programmable curves	Yes	Yes	Yes	Yes	Yes
51V		Voltage Controlled Overcurrent	Yes	Yes	Yes	Yes	Yes
		Voltage Restrained Overcurrent	No	No	Yes	Yes	Yes
25		Check synchronising	No	No	Yes	Yes	Yes
32		Phase Directional Power	No	No	Yes	Yes	Yes
		Sensitive power	No	No	Yes	Yes	Yes
		Load Encroachment supervision (Load Blinders)	No	No	No	Yes	Yes
79	RREC	Autoreclose (3 phases)	No	No	No	4 shots	4 shots
21FL		Fault Locator	No	No	No	Yes	Yes
81RF	DfpPFRC	Frequency supervised rate of change of frequency	No	No	No	Yes	Yes
81RAV	DfpPFRC	Frequency supervised average rate of change of frequency	No	No	No	Yes	Yes
81R		Load Restoration	No	No	No	Yes	Yes
		Rate of change of voltage (dv/dt)	No	No	No	4 stages	4 stages
		Neutral Admittance protection	No	No	No	Yes	Yes
		Blocking scheme	Yes	Yes	Yes	Yes	Yes
		Programmable curves	Yes	Yes	Yes	Yes	Yes
		High Impedance Earth Fault	No	No	No	No	Yes
		CB Monitoring	No	No	No	No	Yes
86		Latching output contacts (Lockout)	Yes	Yes	Yes	Yes	Yes

RELAY SELECTION GUIDE- MICOM P127 VS MICOM P14D

Models :- MiCOM P40 Agile

(P14D directional feeder)

➢**P14DA** is a compact device
(ANSI Code-37,46,46BC,49,50SOTF,50BF,50,50N,51,51N,67,67N ,VTS,CTS,64N ,68,27,47,59,59N,81V,51V,81R,86)

➢**P14DB** is the base device for general application
(ANSI Code-P14DA + 81O,81U,81df/dt,81V)

➢**P14DG** is for small generator applications
(ANSI Code-P14DB + 51V,25,32)

➢**P14DL** is for line protection
(ANSI Code-P14DG + 32(LOAD BLINDERS),79,21FL,81RF,81RAV,81R)

➢**P14DH** includes Watt metric Directional Earth Fault protection
(ANSI Code-(P14DG – 78 Voltage Vector Shift)+, 67N Watt metric Directional Earth Fault(WDE protection)

RELAY SELECTION GUIDE- MICOM P127 VS MICOM P14D

OLD RELAY- MICOM P127

NEW RELAY- MICOM P14DA

Sr. No	Model of relay	Protocol	Input (Min / Max)	Outputs (Min / Max	CT INPUTS	VT INPUTS	ANSI Code
a	Agile P14DA	Modbus / IEC103	3 / 8	4 / 8	4	4	37,46,46BC,49,50SOTF,50BF,50,50N,51,51N,67,67N ,VTS,CTS,64N,68,27,47,59,59N,81V, 51V,81R,86

P14DA case dimensions (20TE case)

- Weight (20TE case) 2 kg – 3 kg (depending on chosen options)
- Dimensions in mm (w x h x l) (20TE case) W: 102.4mm H: 177.0mm D: 243.1mm
- Mounting Panel, rack, or retrofit

RELAY SELECTION GUIDE- MICOM P127 VS MICOM P14D

OLD RELAY- MICOM P127

NEW RELAY- MICOM P14DB

Sr. No	Model of relay	Protocol	Input (Min / Max)	Outputs (Min / Max	CT INPUTS	VT INPUTS	ANSI Code
b	Agile P14DB	Modbus / IEC103/61850	8 / 13	8 / 12	4	4	P14DA + 81O,81U,81df/dt,81V(UNDERVOLTAGE BLOCKING OF FREQUENCY PROTECTIPN)

P14DB case dimensions 30TE/40 TE case

- Weight (30TE case) 3 kg – 4 kg (depending on chosen options) /(40TE case) 5.5 kg (depending on chosen options)
- Dimensions in mm (w x h x l) (30TE case) W: 154.2mm H: 177.0mm D: 243.1mm /(40TE case) W: 206.0mm H: 177.0mm D: 243.1mm
- Mounting Panel, rack, or retrofit

RELAY SELECTION GUIDE- MICOM P127 VS MICOM P14D

OLD RELAY- MICOM P127

NEW RELAY- MICOM P14DG

Sr. No	Model of relay	Protocol	Input (Min / Max)	Outputs (Min / Max	CT INPUTS	VT INPUTS	ANSI Code
c	Agile P14DG	Modbus / IEC103/61850	8 / 13	8 / 12	4	4	**P14DB +** 51V(VOLTAGE RESTRAINED OVERCURRENT),25,32(PHASE DIRECTIONAL POWER,SENSITIVE POWER)

P14DG case dimensions 30TE/40 TE case

- **Weight (30TE case) 3 kg – 4 kg (depending on chosen options) /(40TE case) 5.5 kg (depending on chosen options)**
- **Dimensions in mm (w x h x l) (30TE case) W: 154.2mm H: 177.0mm D: 243.1mm /(40TE case) W: 206.0mm H: 177.0mm D: 243.1mm**
- **Mounting Panel, rack, or retrofit**

RELAY SELECTION GUIDE- MICOM P127 VS MICOM P14D

OLD RELAY- MICOM P127

NEW RELAY- MICOM P14DL

Sr. No	Model of relay	Protocol	Input (Min / Max)	Outputs (Min / Max	CT INPUTS	VT INPUTS	ANSI Code
d	Agile P14DL	Modbus / IEC103/61850	6 / 13	8 / 12	4	4	**P14DG+**32(LOADBLINDERS),79,21FL,81RF,81RAV,81R(LOAD RESTORATION,dv/dt,NEUTRAL ADMITTANCE PROTECTIO,86

P14DL case dimensions 30TE/40 TE case

- **Weight (30TE case) 3 kg – 4 kg (depending on chosen options) /(40TE case) 5.5 kg (depending on chosen options)**
- **Dimensions in mm (w x h x l) (30TE case) W: 154.2mm H: 177.0mm D: 243.1mm /(40TE case) W: 206.0mm H: 177.0mm D: 243.1mm**
- **Mounting Panel, rack, or retrofit**

RELAY SELECTION GUIDE- MICOM P127 VS MICOM P14D

OLD RELAY- MICOM P127

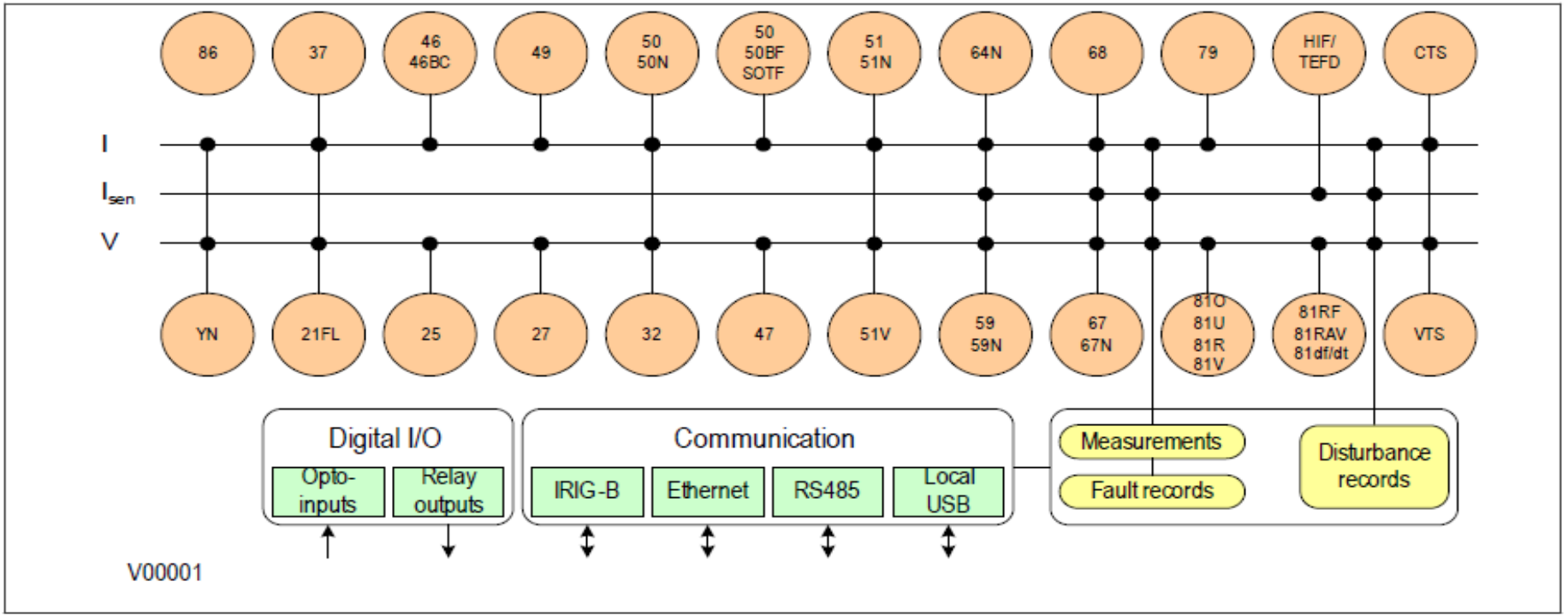
NEW RELAY- MICOM P14DZ

Sr. No	Model of relay	Protocol	Input (Min / Max)	Outputs (Min / Max	CT INPUTS	VT INPUTS	ANSI Code
e	Agile P14DH	Modbus / IEC103/61850	6/8/11/ 13	8 / 12	4	4	(P14DG – 78 Voltage Vector Shift)+, 67N Watt metric Directional Earth Fault(WDE protection)

P14DZ case dimensions 30TE/40 TE case

- Weight (30TE case) 3 kg – 4 kg (depending on chosen options) /(40TE case) 5.5 kg (depending on chosen options)
- Dimensions in mm (w x h x l) (30TE case) W: 154.2mm H: 177.0mm D: 243.1mm /(40TE case) W: 206.0mm H: 177.0mm D: 243.1mm
- Mounting Panel, rack, or retrofit

Functional Overview



❖**Disclaimer:-**

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